

REMARKS

This is a full and timely response to the Official Action mailed November 17, 2005. Claim 6 has been amended and claims 6-15 remain pending in the application. Reconsideration and reexamination are respectfully considered.

FIG. 11 has been objected to for failing to include the legend "Prior Art", and has been amended accordingly. Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings in light of the amendment.

Claims 6, 8, 10 and 13-14 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,862,167 to Sassa et al. ("Sassa").

Independent claim 6 has been amended to recite "*[a] semiconductor laser comprising: a light emission function layer stack including a cladding layer and an active layer formed on a first surface of a translucent substrate; two electrodes having different polarities, which are provided on said light emission function layer stack side; and a light leakage preventive film formed on a second surface of said translucent substrate that is opposite said first surface, wherein the light emission function layer stack provides a resonator direction parallel to the first and second surfaces and said light leakage prevention film prevents light leakage in a direction perpendicular to the resonator direction.*

These claimed features are neither disclosed nor suggested by Sassa. That reference discloses LED diodes (FIGs. 1-5 and Examples 1-4) as well as a laser diode (FIG. 6, Example 5). Applicant's claim 6 recites a semiconductor laser and thus is not anticipated by the LED diode disclosed in FIG. 5 of Sassa and relied upon by the Examiner. The semiconductor laser that is disclosed by Sassa is illustrated in FIG. 6, and does not appear to disclose or suggest an implementation of a light leakage prevention film.

Nevertheless, even assuming for the sake of argument that the LED diodes of Sassa are somehow applicable to amended claim 6, there still would be no disclosure or suggestion of Applicant's claimed invention by Sassa. This is because, among other things, the reference discloses the type of device that provides oscillation that extends in an "X-axis" direction that is perpendicular to the surface of the underlying sapphire substrate. (Sassa, FIG. 6 and 6:29-36)). By contrast, Applicant's claimed invention provides an edge emitting

semiconductor laser wherein the resonator direction “A”, and the direction of oscillation, is parallel to the surface of the underlying substrate. Support for this feature is provided throughout the description, with the “A-axis” indicating the resonator direction. (See, e.g., Applicant’s specification FIGs. 1, 3, 10, and related description.). Moreover, the light leakage preventive film of Applicant’s claimed invention prevents light leakage that is perpendicular to the resonator direction. Sassa fails to disclose or suggest the direction of oscillation and the prevention of the type of light leakage claimed by Applicant.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent claim 6, as well as dependent claims 8, 10, 13 and 14, which incorporate the described features and respectively add their own distinct features, under 35 U.S.C. § 102(b) as being anticipated by Sassa.

Claim 7 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sassa in view of U.S. Pat. No. 4,607,368 to Hori (“Hori”).

Claim 7 depends from and thus incorporates the features of independent claim 6 in addition to reciting its own patentably distinct features. As described above, Sassa does not disclose or suggest provision of an edge emitting semiconductor having a resonator direction parallel to the surface of an underlying translucent substrate, or a light leakage preventive film that prevents light leakage perpendicular to the resonator direction as claimed by Applicant.

Hori does not remedy the deficiencies of Sassa. Hori discloses a semiconductor laser device having light absorbing layers 33 and 37 that are both resident among the layers overlying the substrate 31 (Hori, FIG. 3), on the same side of the substrate as the active layer. Accordingly, Hori clearly neither discloses nor suggests a light leakage preventive film on a second surface of said translucent substrate that is opposite said first surface. It is believed that the position of the absorbing layer having lower bandgap (E_g) as proposed by Hori is deficient with regards to refractive index distribution, and that the absorbing layer having a high refractive index attracts emitting light. By contrast, as noted, Applicant’s light leakage preventive film, particularly as a light absorbing film as recited in claim 7, is positioned on the opposing surface of the substrate relatively far from the active layer and avoids such effects.

Since Sassa and Hori fail to disclose or suggest features that are recited in Applicant’s claimed invention, whether considered alone or in combination, Applicant submits that the Examiner has failed to produce a *prima facie* case of obviousness.

Also, even if the proposed combination would produce the claimed features, which is not the case, such a combination would be improper as there is no evident motivation to combine the references in the fashion offered by the Examiner. Applicant submits that the Examiner has engaged in an attempt to reconstruct the claimed invention in hindsight, and has failed to set forth a proper basis for an obviousness rejection.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 7 as being obvious over Sassa in view of Hori.

Claims 9, 11 and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sassa in view of U.S. Pat. No. 5,301,204 to Cho et al. (“Cho”).

Claims 9, 11 and 12 depend from and incorporate the features of independent claim 6 in addition to reciting their respective patentably distinct features. As noted, Sassa does not disclose or suggest provision of an edge emitting semiconductor having a resonator direction parallel to the surface of an underlying translucent substrate, or a light leakage preventive film that prevents light leakage perpendicular to the resonator direction.

Cho also fails to remedy the deficiencies of Sassa. Cho appears to a semiconductor laser having a quarter wavelength multi-layer dielectric film for cavity mirrors. This is another example of layers found on the same side of the substrate as the active layer. The layers are not provided to prevent light leakage in the fashion claimed by Applicant. Namely, Cho does not disclose or suggest a light leakage prevention layer intended to prevent light leakage in a direction perpendicular to the resonator direction, and does not provide any kind of layer as such on the opposing surface of the substrate as claimed by Applicant.

Accordingly, the Examiner has again failed to establish a *prima facie* case of obviousness, and Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 9, 11 and 12 as being unpatentable over Sassa in view of Cho.

Claim 15 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sassa in view of U.S. Pat. No. 6,370,176 to Okumura (“Okumura”).

Claim 15 also depends from claim 6 and thus also incorporates its features, which are neither disclosed nor suggested by Sassa as described in detail above. Okumura is apparently relied upon for its disclosure of a GaN substrate, but offers no disclosure or suggestion of the light leakage preventive film formed on a second surface of the translucent substrate that is opposite the first surface, or preventing light leakage in a direction perpendicular to the resonator direction as claimed by Applicant.

Accordingly, for reasons similar to those provided regarding claim 6 above, and for its inclusion of separately recited patentably distinct features, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 15 as being obvious over the combination of Sassa and Okumura.

For the foregoing reasons, reconsideration and allowance of the claims which remain in this application are solicited. If further matters remain, the Examiner is invited to telephone the undersigned to resolve remaining issues.

Respectfully submitted,

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By 
Ronald P. Kananen
Registration No.: 24,104
Christopher M. Tobin
Registration No.: 40,290
Attorney for Applicant

RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W. Suite 501
Washington, D.C. 20036
Tel: (202) 955-3750
Fax: (202) 955-3751
Customer No. 23353

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to figure 11.

In Fig. 11- Please add the legend “PRIOR ART”

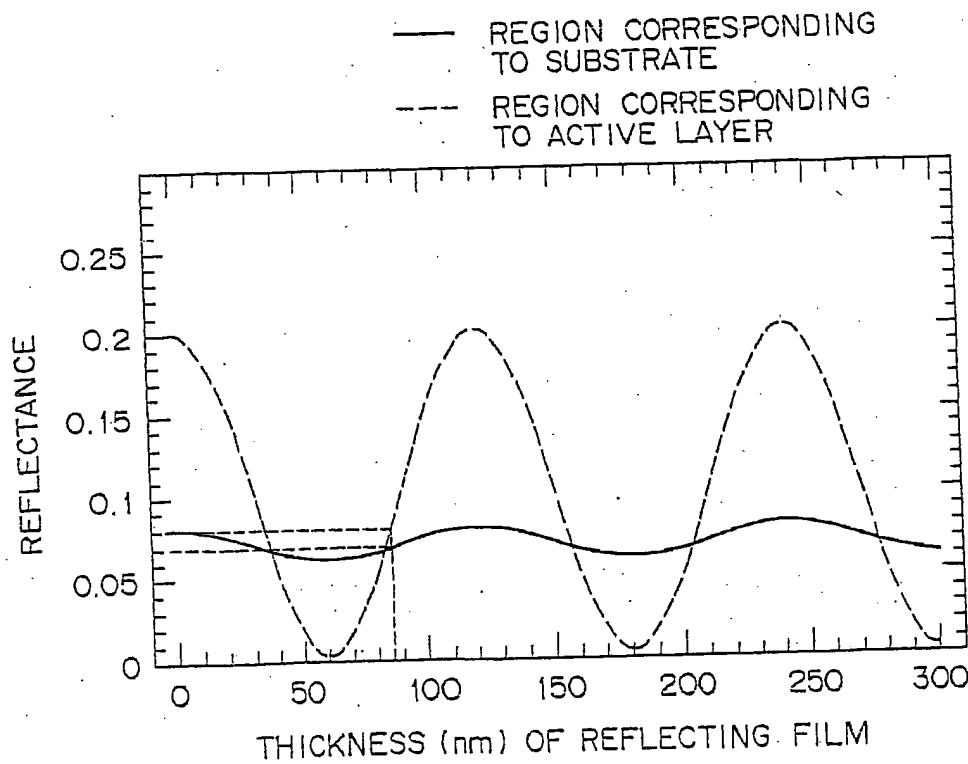
Attachment Replacement Sheet

Annotated sheet showing changes



Annotated Sheet

FIG. 11



"PRIOR ART"